DRAWINGS

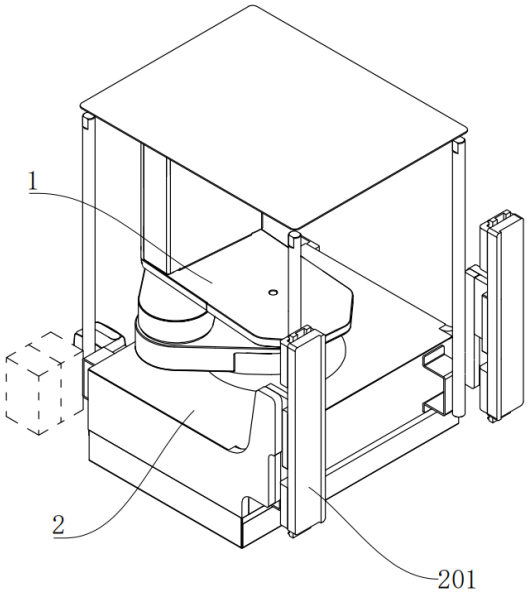


FIG. 1

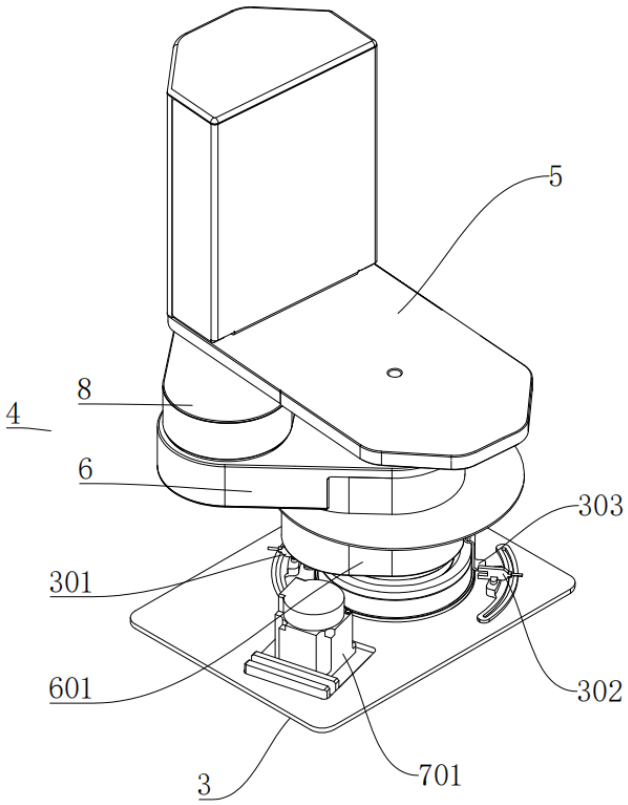


FIG. 2

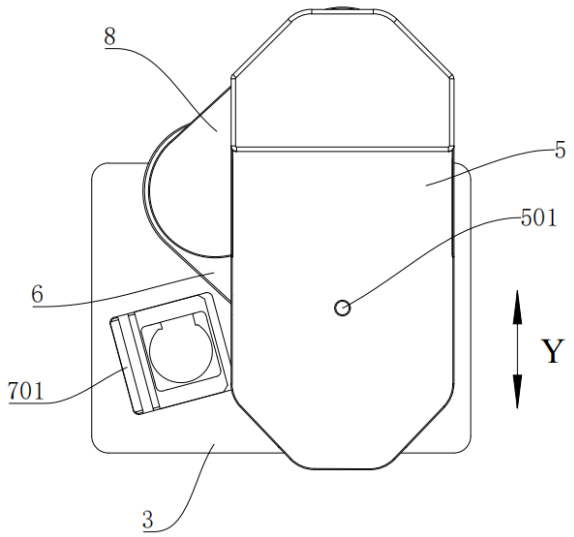


FIG. 3

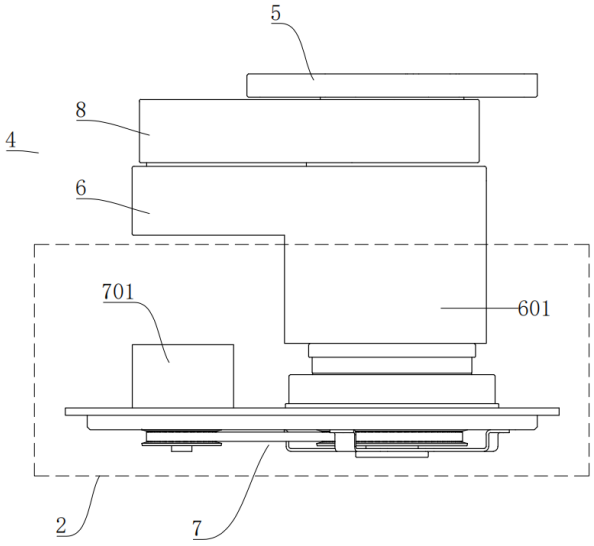


FIG. 4

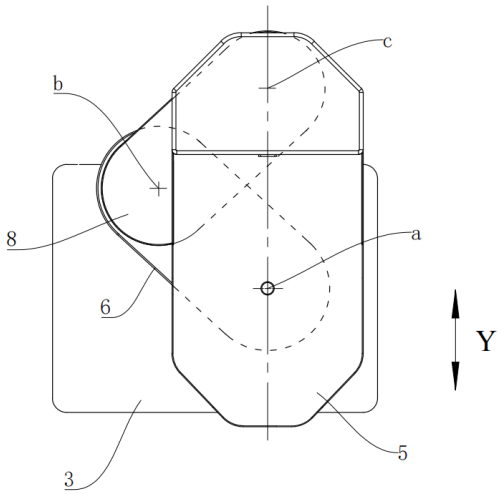

c
b
8
a
6
Y
5
3

FIG. 5

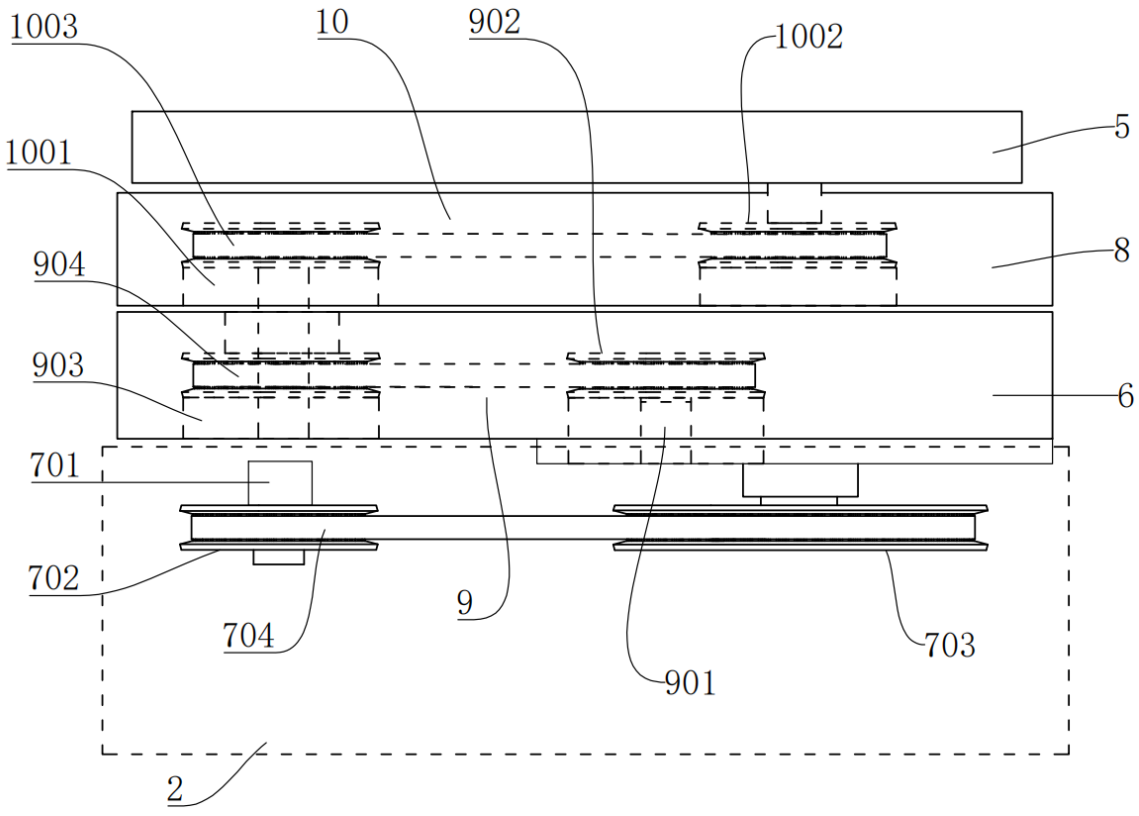

1003
10
902
1002
5
1001
8
904
903
6
701
702
704
9
901
703
2

FIG. 6

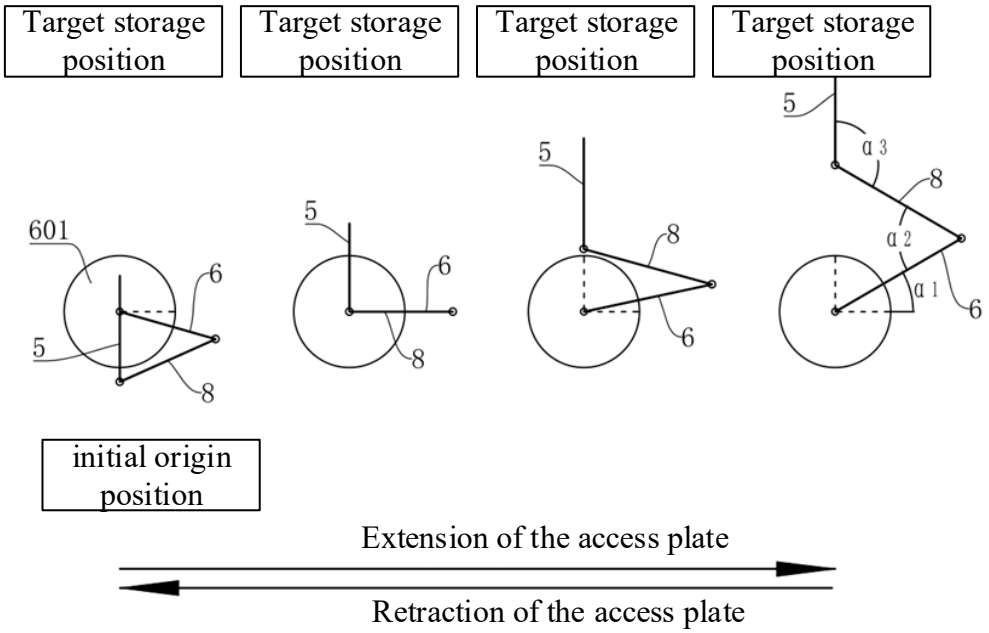

Target storage position
Target storage position
Target storage position
Target storage position
601
6
5
8
5
6
8
5
8
6
5
α 3
8
α 2
α 1
6
initial origin position
Extension of the access plate
Retraction of the access plate

FIG. 7

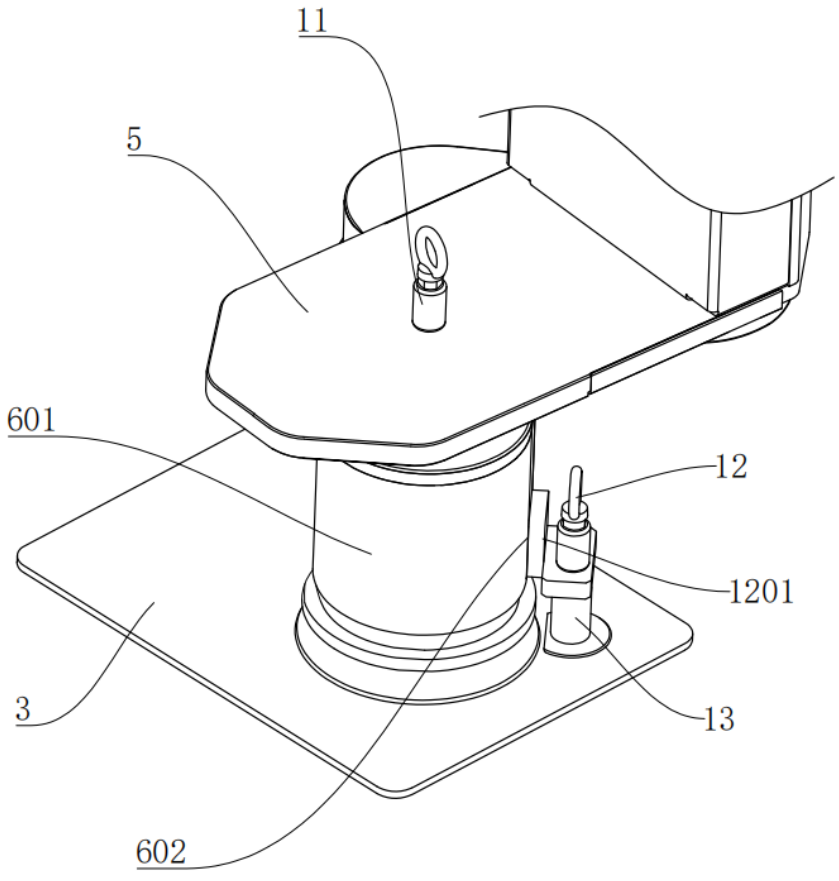

11
5
601
12
1201
3
13
602

FIG. 8

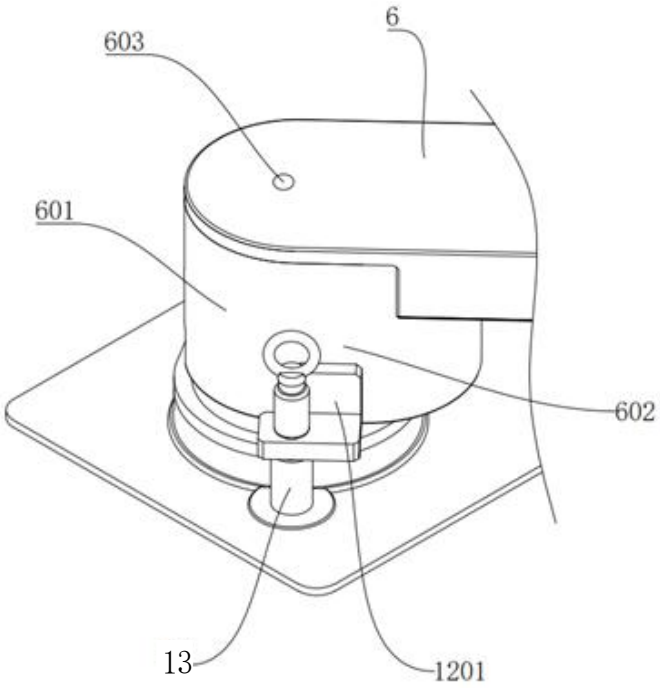


FIG. 9

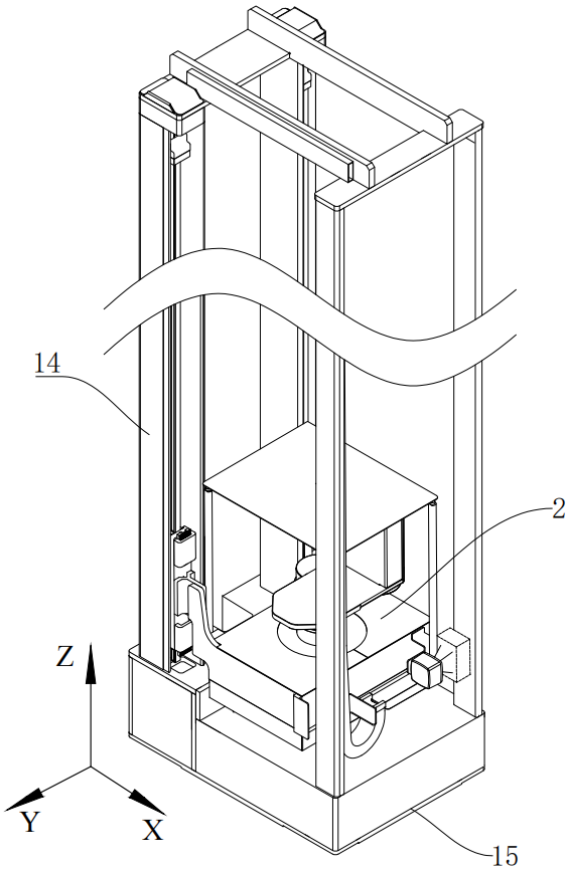


FIG. 10

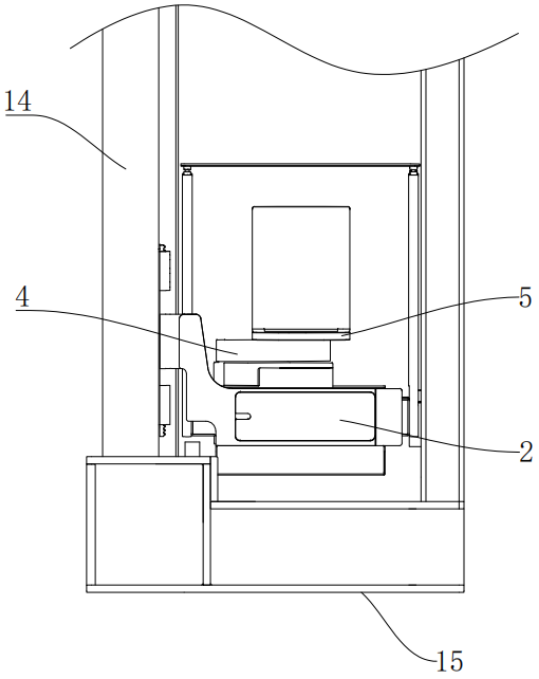


FIG. 11

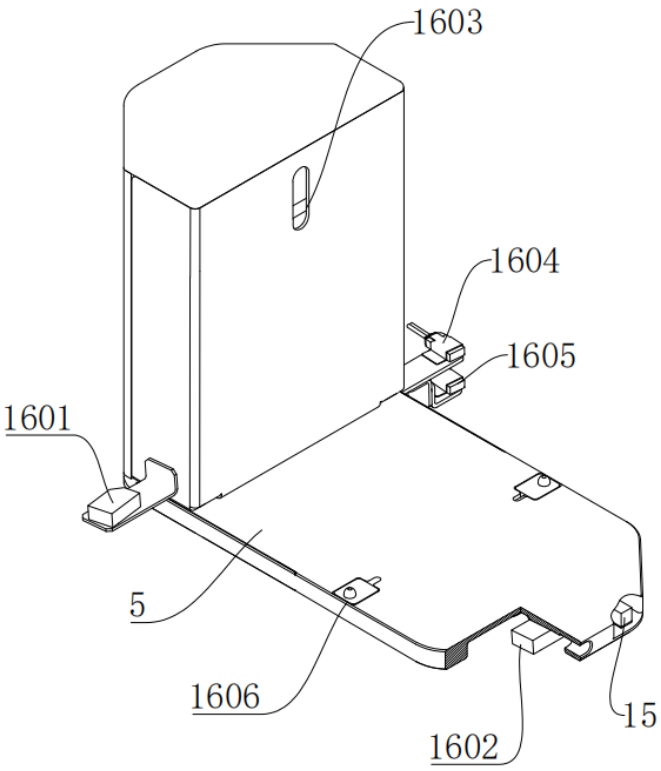


FIG. 12

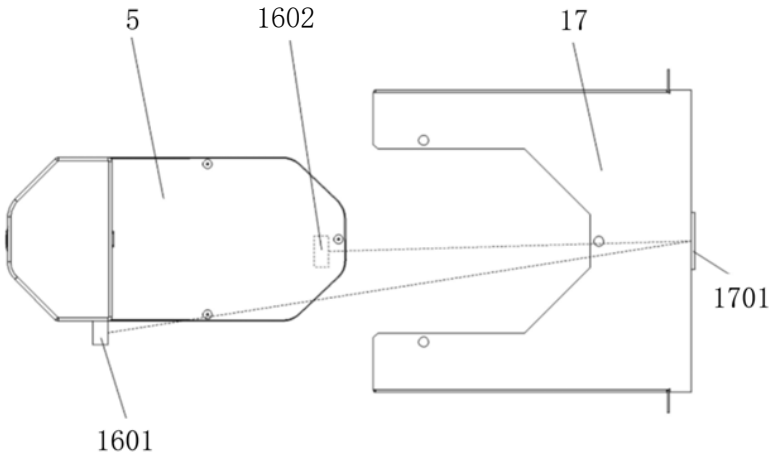


FIG. 13

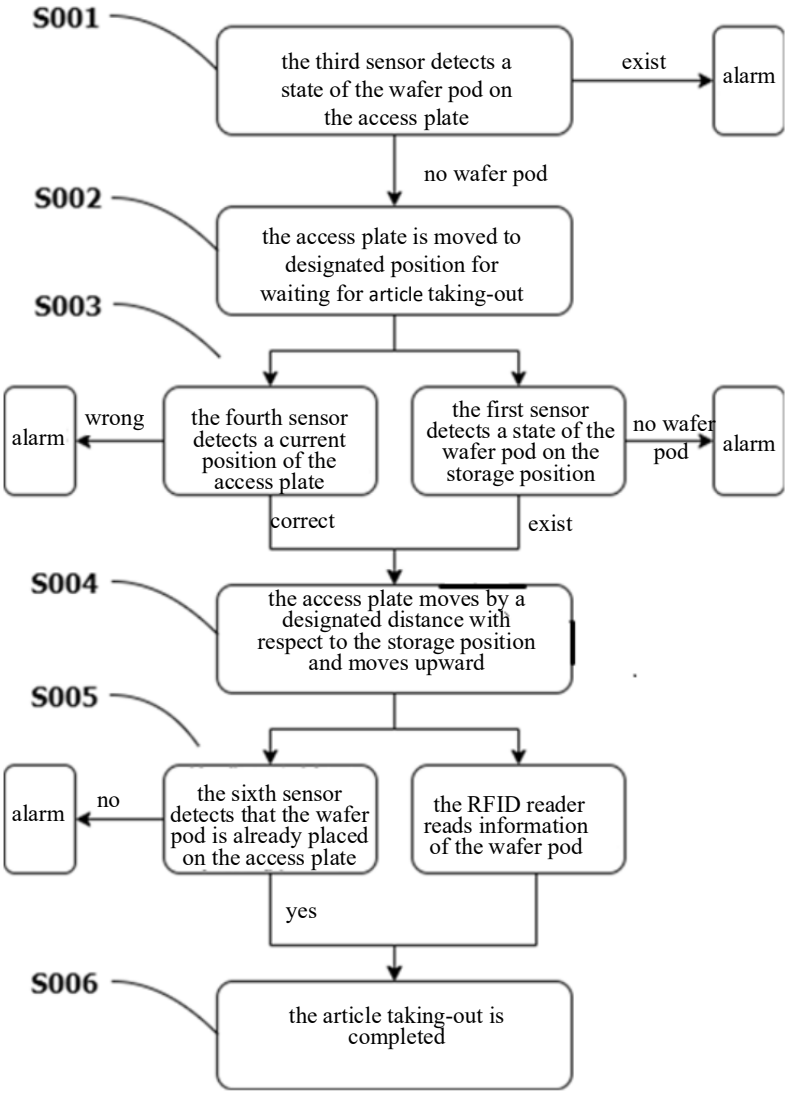

S001
the third sensor detects a state of the wafer pod on the access plate
exist
alarm
no wafer pod
S002
the access plate is moved to designated position for waiting for article taking-out
S003
alarm
wrong
the fourth sensor detects a current position of the access plate
the first sensor detects a state of the wafer pod on the storage position
no wafer pod
alarm
correct
exist
S004
the access plate moves by a designated distance with respect to the storage position and moves upward
S005
alarm
no
the sixth sensor detects that the wafer pod is already placed on the access plate
the RFID reader reads information of the wafer pod
yes
S006
the article taking-out is completed

FIG. 14

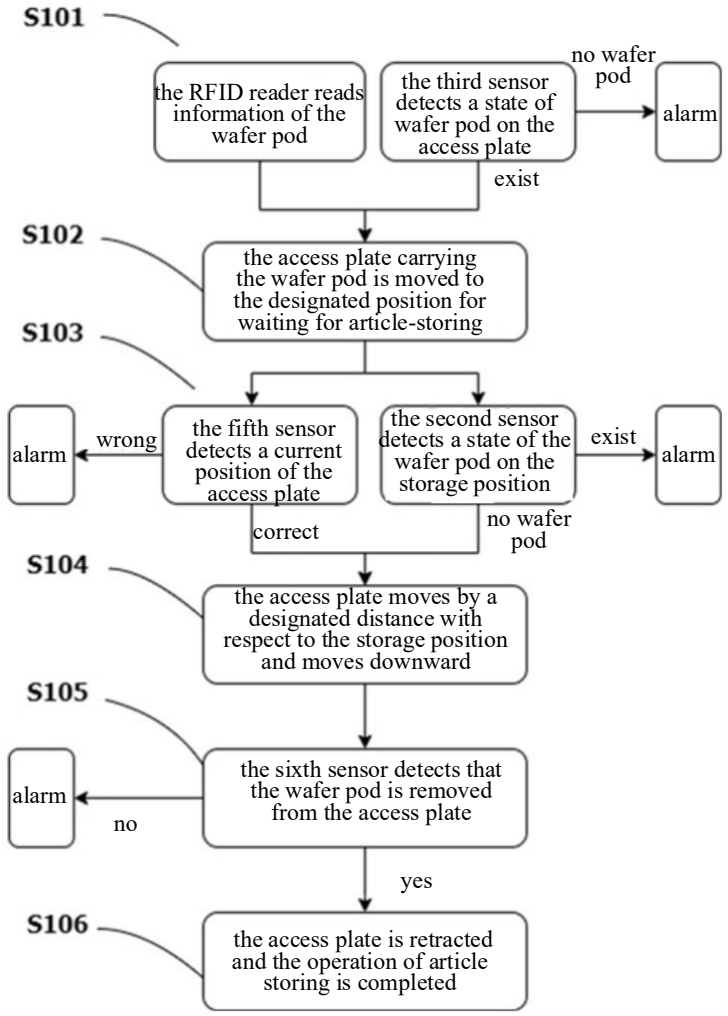

S101
the RFID reader reads information of the wafer pod
the third sensor detects a state of wafer pod on the access plate
no wafer pod
alarm
exist
S102
the access plate carrying the wafer pod is moved to the designated position for waiting for article-storing
S103
alarm
wrong
the fifth sensor detects a current position of the access plate
the second sensor detects a state of the wafer pod on the storage position
exist
alarm
correct
no wafer pod
S104
the access plate moves by a designated distance with respect to the storage position and moves downward
S105
alarm
no
the sixth sensor detects that the wafer pod is removed from the access plate
yes
S106
the access plate is retracted and the operation of article storing is completed

FIG. 15

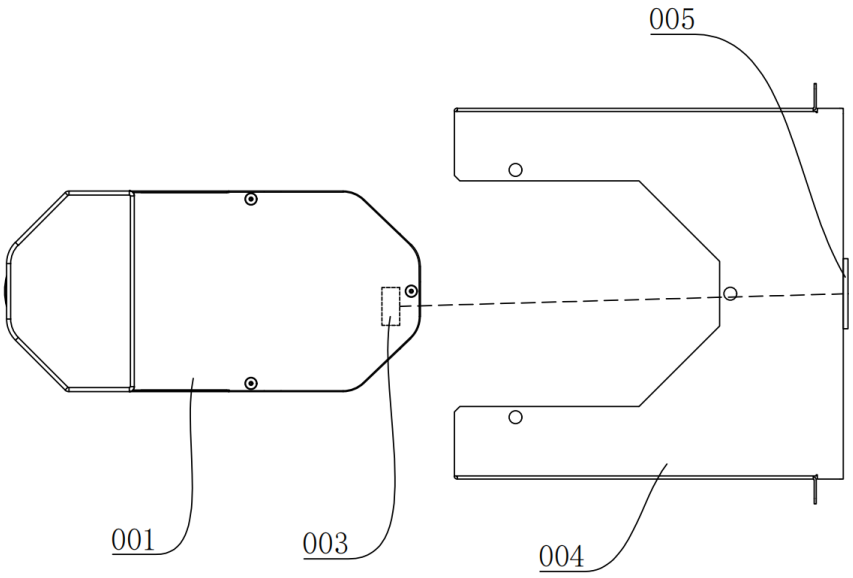

005
001
003
004

FIG. 16

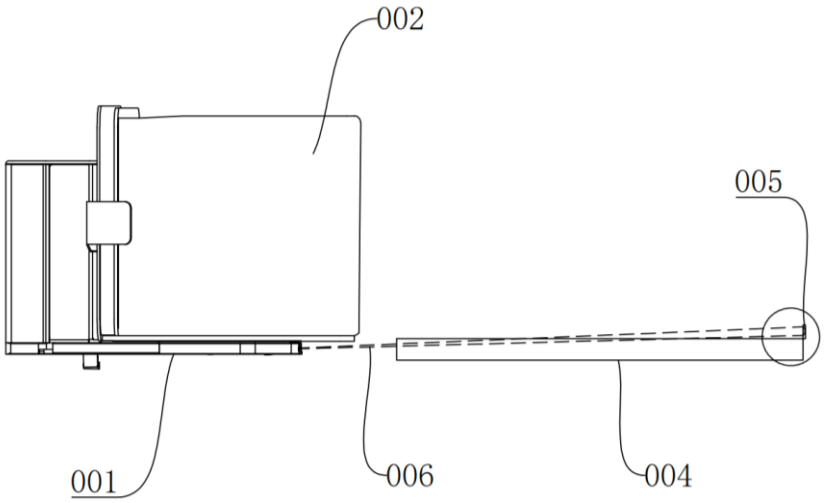


FIG. 17

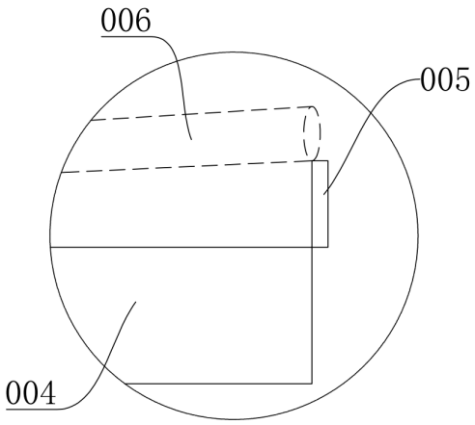


FIG. 18

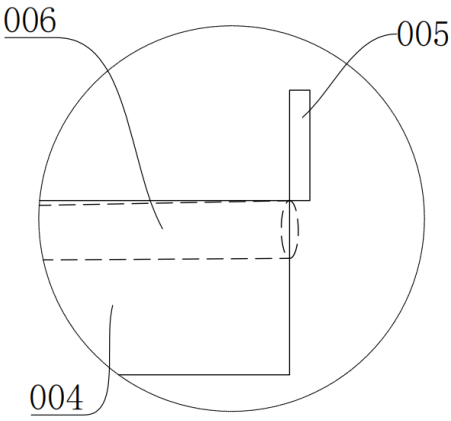


FIG. 19

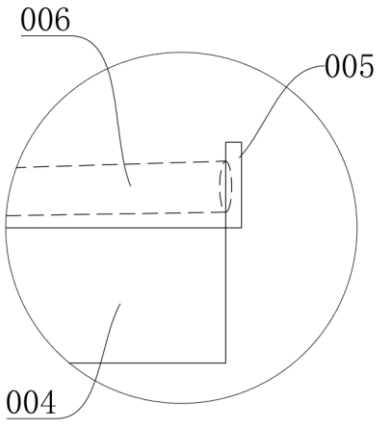


FIG. 20

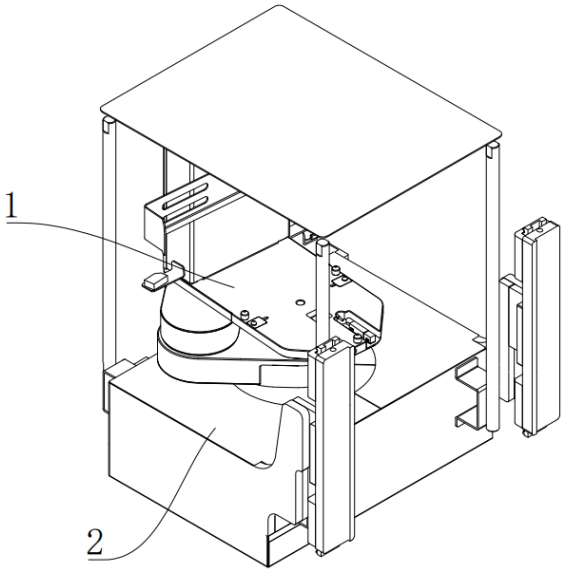


FIG. 21

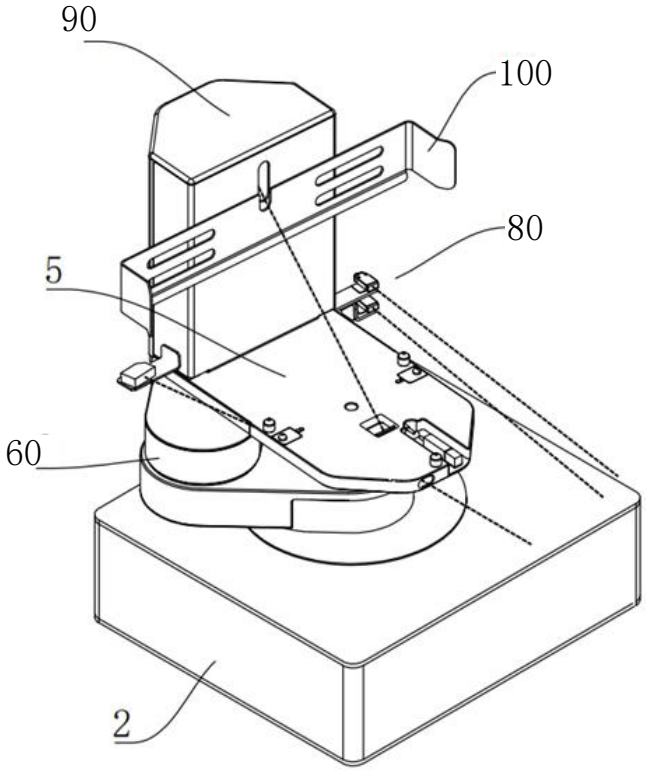


FIG. 22

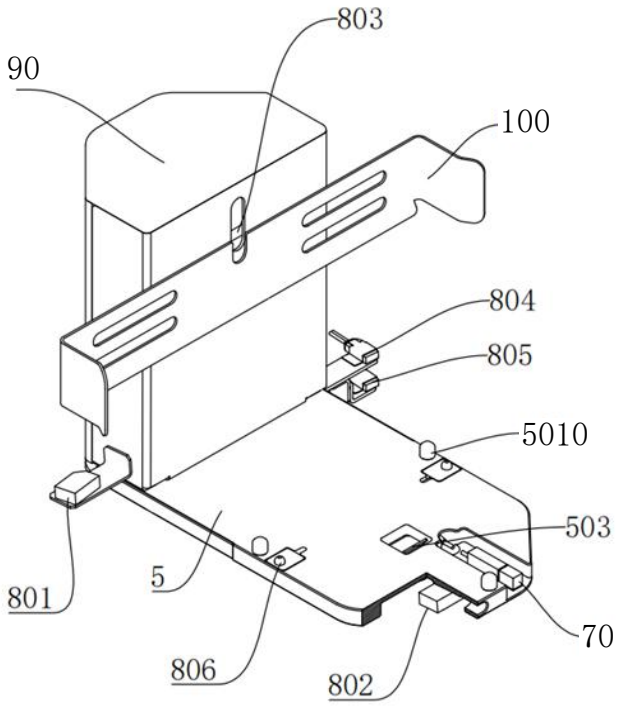


FIG. 23

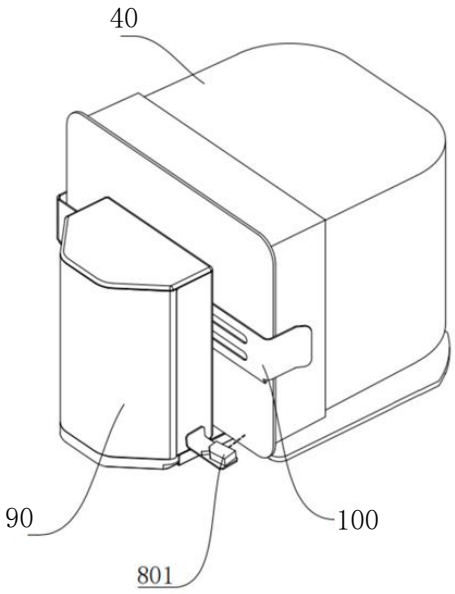


FIG. 24

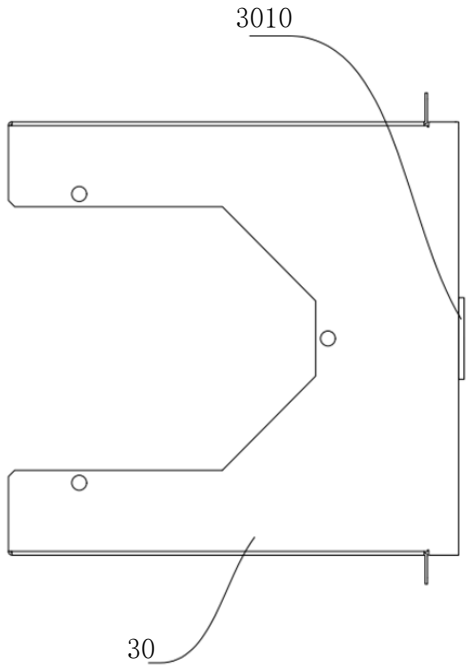


FIG. 25

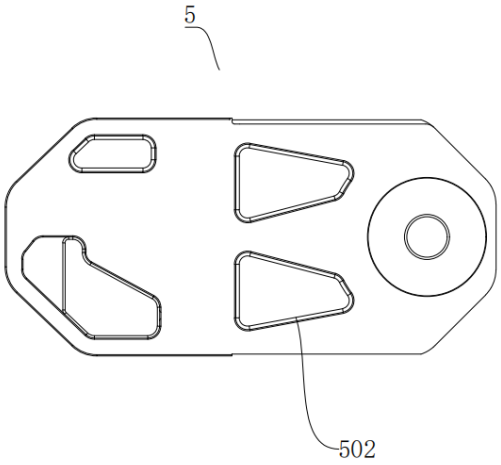


FIG. 26